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Darwin’s Problem: The Origin of Language

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By Dr. Fazale Rana



Language can bind us together and language can separate us. One of the most frustrating things I encountered on a speaking tour in Lima, Peru, last spring was struggling to communicate with my Peruvian audience and hosts, many of whom spoke only Spanish.

Whether we speak the same language or not, all human beings possess a common language faculty. We are born with an innate capacity to learn language. This is a defining feature of humanity.

As a Christian, I view our language ability as a manifestation of [God’s image in us](https://www.biblegateway.com/passage/?search=genesis+1%3A26-27&version=NIV). The scientific community, on the other hand, largely turns to evolutionary scenarios to account for the emergence of language. Yet, [as a recently published essay attests](http://journals.plos.org/plosbiology/article?id=10.1371/journal.pbio.1001934), explaining the origin of language from within the evolutionary paradigm is a struggle.1

According to the essay (the authors of which include well-known anthropologist [Ian Tattersall](http://en.wikipedia.org/wiki/Ian_Tattersall) and legendary linguist [Noam Chomsky](http://en.wikipedia.org/wiki/Noam_Chomsky)), an improper understanding of what language is—and what it is not—helps confound an evolutionary explanation. The authors argue that language doesn’t equate to the ability to communicate. After all, animals can communicate, but they don’t posses language. Nor is language the same as speech. Instead, the authors assert that language is a cognitive process starting with neural activity that affects vocalization. Language is possible even when humans lack the capacity for vocalization (and hearing). For example, deaf people communicate by signing, not vocal speech. Still, they have the same language capacity as hearing people because the neural apparatus required for language is in place.

Tattersall, Chomsky, and their coauthors argue that evolutionary biologists too often focus on vocalization when trying to explain the evolution of language. But, as they point out, the emergence of this capability doesn’t coincide with the origin of language. It is true that vocalization is a necessary condition for language, but it is not a sufficient condition. As a case in point, Neanderthals possess the same version of*FOXP2* (the so-called language gene) as humans. While scientists believe that this gene plays a role in the auditory and vocalization processes, [its activity alone doesn’t account for speech](http://www.reasons.org/articles/speaking-about-a-controversy-part-2-of-2). Nor does the presence of *FOXP2* in the Neanderthal genome imply that Neanderthals had the neural apparatus to enable processes like [merge](http://en.wikipedia.org/wiki/Merge_(linguistics)) and[displacement](http://en.wikipedia.org/wiki/Displacement_(linguistics)), two defining features of human language. (These two processes produce a hierarchical structure that characterizes language and allows for a near-infinite range of syntactical possibilities.)

So, how can researchers study the origin of language? The authors of the essay maintain that the archeological record is the best way to characterize the origin of language, with symbolism being the closest proxy.

Symbolism appears to be unique to modern humans. There is [no compelling reason to think that Neanderthals displayed symbolism](http://rtbapologia.podbean.com/e/neanderthals-wore-eagle-talons-as-jewelry-130000-years-ago/). [Symbolism makes its first appearance](http://www.reasons.org/articles/new-archeological-evidence-fills-the-gap-in-the-biblical-case-for-human-origins)in the archeological record close to the time that humans appear on the scene. There is unequivocal evidence for symbolism at 80,000 years ago, and other indicators that symbolism may have appeared around 150,000 years ago, coincident with the origin of humanity. It seems, then, that language had its genesis at the same time humans did.

The fact that every human being has the identical language capacity compels the authors of the essay to argue that language originated suddenly. Their argument gains added support from the exponential growth of technology since the origin of modern humanity. Language must have facilitated this rapid growth. Neanderthal technology did not experience a similar growth pattern. In fact, it remained largely static from the time Neanderthals first appeared (around 250,000 to 200,000 years ago) to the time they went extinct (around 40,000 years ago). This implies that these hominids lacked language capacity.

According to the authors, “By this reckoning, the language faculty is an extremely recent acquisition in our lineage, and it was acquired not in the context of slow gradual modification of preexisting systems under natural selection but in a single, rapid, emergent event that built upon those prior systems but was not predicted by them…The relatively sudden origin of language poses difficulties that may be called ‘Darwin’s problem.’”2

The rapid emergence of language might pose a problem for the theory of evolution, but it fits nicely with a biblical understanding of humanity’s origin. If human beings were uniquely made in God’s image through the Creator’s direct action, then it would be reasonable to think that language would appear suddenly and be uniquely associated with modern humans.

Subjects: Adam and Eve

Dr. Fazale Rana

In 1999, I left my position in R&D at a Fortune 500 company to join Reasons to Believe because I felt the most important thing I could do as a scientist is to communicate to skeptics and believers alike the powerful scientific evidence—evidence that is being uncovered day after day—for God’s existence and the reliability of Scripture. [Read more about Dr. Fazale Rana](http://www.reasons.org/about/who-we-are/fazale-rana)



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1. Johan J. Bolhuis et al., “How Could Language Have Evolved?,” *PLoS Biology* 12 (August 2014): e1001934, doi:10.1371/journal.pbio.1001934.
2. Ibid.